

REMARKS

Claims 8, 9, 19, 20, 25 and 29-38 are pending in the application. It is gratefully acknowledged that Claims 32, 35 and 37 have been objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form to include all of the limitations of the base claim and any intervening claims. The Examiner objected to Claim 8, 19 and 29 as containing informalities. The Examiner rejected Claims 8, 9, 19 and 20 under 35 U.S.C. §112, second paragraph, as being indefinite. The Examiner has rejected Claims 8 and 19 under 35 U.S.C. §103(a) as being unpatentable over Citation #4 ("Text Proposal Regarding TFCI Coding For FDD", TSGR1#7(99)D69, August 30 - September 3, 1999) in view of Wicker (Stephen B. Wicker, Error Control Systems for Digital Communication and Storage, Prentice-Hall, 1996, pages 149-155). The Examiner has rejected Claim 9 and 20 under 35 U.S.C. §103(a) as being unpatentable over Citation #4 in view of Wicker. The Examiner has rejected Claims 25, 29, 36 and 38 under 35 U.S.C. §103(a) as being unpatentable over Citation #4 and Wicker, in view of Citation #7 ("Harmonization Impact On TFCI And New Optimal Coding For Extended TFCI With Almost No Complexity Increase", TSGR#6(99)970, July 13-16, 1999). The Examiner has rejected Claims 30, 31, 33 and 34 under 35 U.S.C. §103(a) as being unpatentable over Citation #4, Wicker and Citation #7.

Please amend Claims 8 and 19 as set forth herein. No new matter has been added.

Initially, please note that this non-Final Office Action is the result of the extensive interviews conducted between August 14-23, 2006 with the Examiner and his Supervisor (SPE) to discuss the Examiner's response to the arguments contained in our prior Response.

First, it is respectfully noted that the Interview Summary, purporting to document that which occurred during the interview of August 23, 2006, contains inaccuracies and misstatements. Although alleged by the Examiner, no statement was made equating the puncturing patterns of the claims to a species under the genus of general puncturing patterns. Two cases were discussed during this interview, In re Jones and In re O'Farrell. The In re Jones

genus/species fact pattern was raised during the interview, which may have caused the Examiner's mischaracterization of the conversation and the claims of the present application. Each of these cases deals with improper obviousness rejections based on what the courts and the MPEP describes as an improper "obvious to try" rationale. See MPEP §2145.X.B Obvious To Try Rationale. The Examiner's application of the improper obvious to try rationale in support of the obviousness rejections will be addressed in detail below.

Second, under the improper heading of "Information Disclosure Statement" on page 2 of the Office Action, the Examiner makes a formal requirement for information under 37 C.F.R. §1.105. The Examiner has requested that a stipulation be made to each of his "assertions of facts". Each alleged fact is set forth below with a response following immediately thereafter.

1. "In a conversation with the Applicant's representative on 8/24/2006, the Applicant's representative cited to court cases in Re Jones (21 USPQ2d 1941) and In Re O'Farrell (7 USPQ2d 1673) stating that the puncturing patterns in claims 9, 20, 25, 29, 36 and 38 form a species under the genus of general puncturing patterns and that the genus cannot be used to disclose all species within the broad category of the genus."

1A. Applicants' deny stating that the puncturing patterns in claims 9, 20, 25, 29, 36 and 38 form a species under the genus of general puncturing patterns. Applicants' state that a genus cannot be used to disclose all species within the broad category of the genus.

2. "Merriam- Webster's Collegiate Dictionary defines genus a class, kind or group marked by common characteristics and a species a class of individuals having common attributes and designated by a common name. In order for a class of individuals to qualify as a species, the class must be marked with common attributes and have a designated common name."

2A. The information required to be submitted is unknown to or is not readily available to the party or parties from which it was requested.

3. "The Examiner asserts that the puncturing patterns in claims 9, 20, 25, 29, 36 and 38 are substantially uniform maximal minimum distance puncturing patterns."

3A. The information required to be submitted is unknown to or is not readily available to the party or parties from which it was requested.

4. "The Examiner requests that the Applicant either affirm or disagree with the statement - the puncturing patterns in claims 9, 20, 25, 29, 36 and 38 are substantially uniform maximal minimum distance puncturing patterns."

4A. The information required to be submitted is unknown to or is not readily available to the party or parties from which it was requested. The term "substantially uniform maximal minimum distance puncturing patterns" is unknown to the Applicants.

5. "If the Applicant disagrees with the statement - the puncturing patterns in claims 9, 20, 25, 29, 36 and 38 are substantially uniform maximal minimum distance puncturing patterns, the Examiner requests that the Applicant provide the designated common name for the puncturing patterns in claims 9, 20, 25, 29, 36 and 38 and that the Applicant provide the common attributes that make the puncturing patterns in claims 9, 20, 25, 29, 36 and 38 a species reciting support in the specification for such an allegation."

5A. The information required to be submitted is unknown to or is not readily available to the party or parties from which it was requested. The term "substantially uniform maximal minimum distance puncturing patterns" is unknown to the Applicants. There is no "designated common name" for the puncturing patterns in claims 9, 20, 25, 29, 36 and 38 known to the Applicants. Applicants deny alleging that the puncturing patterns in claims 9, 20, 25, 29, 36 and 38 form a species.

The Examiner is respectfully directed to pages 18-19 of the specification, which clearly defines the puncturing positions/patterns.

Third, The Examiner states that the prior arguments to the claims have been considered but are moot in view of the new ground(s) of rejection. The Examiner applies this statement to at least independent Claims 8 and 19. The Examiner then recites, verbatim, the rejection contained in the prior Office Action. Clarification of this inconsistency is respectfully requested.

Claims 8, 9, 19, 20, 25 and 29-44 are pending in the application. It is gratefully acknowledged that Claims 32, 35 and 37 have been objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form to include all of the limitations of the base claim and any intervening claims. The Examiner objected to Claim 8, 9, 19 and 20 as containing informalities. The Examiner has rejected Claims 8 and 19 under 35 U.S.C. §103(a) as being unpatentable over Citation #4 ("Text Proposal Regarding TFCI Coding For FDD", TSGR1#7(99)D69, August 30 - September 3, 1999) in view of Wicker (Stephen B. Wicker, Error Control Systems for Digital Communication and Storage, Prentice-Hall, 1996, pages 149-155). The Examiner has rejected Claim 9 and 20 under 35 U.S.C. §103(a) as being unpatentable over Citation #4 in view of Wicker and further in view of Tong et al. (U.S. Patent 6,744,744). The Examiner has rejected Claims 25, 29, 36 and 38-40 under 35 U.S.C. §103(a) as being unpatentable over Citation #4 and Wicker, in view of Tong et al. and further in view of

Citation #7 (“Harmonization Impact On TFCI And New Optimal Coding For Extended TFCI With Almost No Complexity Increase”, TSGR#6(99)970, July 13-16, 1999). The Examiner has rejected Claims 30, 31, 33, 34 and 41-44 under 35 U.S.C. §103(a) as being unpatentable over Citation #4, Wicker, and Tong et al. in view of Citation #7.

The Examiner objected to Claim 8, 9, 19 and 20 as containing informalities. The Examiner stated that “the sequence of 48 symbols” of independent Claims 8 and 19 lacks antecedent basis. Claims 8 and 19 have been amended to change “the sequence of m symbols” recited in the preambles of Claims 8 and 19 to read “the sequence of 48 symbols”. Based on at least the foregoing, withdrawal of the objected to Claim 8, 9, 19 and 20 is respectfully requested.

The Examiner has rejected Claims 8 and 19 under 35 U.S.C. §103(a) as being unpatentable over Citation #4 in view of Wicker. Citation #4 relates to (32,10) coding for improving (32,6) or (16,5) TFCI coding. Block coding is defined by a unique sequence, puncturing pattern, etc. in accordance with a coding length. That is, when a coding length is changed, a completely different code is required by a channel that requires changing the entire coding structure. Accordingly, Claims 8 and 19 of the present application, which describe a new sequence and puncturing pattern for (48,10) coding, is distinguishable from the references.

With respect to Claims 9, 20, 25, 29-31, 33, 34, 36 and 38, the Examiner bases his obviousness rejections of the specific puncturing patterns, masking sequences, and/or Walsh codes recited in the claims on Tong et al. Tong et al. discloses rate matching and channel interleaving for a communications system. Tong et al. at col. 1, lines 36-42 states:

It is desirable to distribute the omitted or repeated bits as evenly as possible, with as great a distance as possible between punctured or repeated bits in the de-interleaved frames, in a manner that is easy to implement and that is relatively independent of variables such as the frame-size, number of frames, and puncturing rate.

MPEP §2145.X.B clearly states that 'obvious to try' is not the standard under §103. See *In re O'Farrell*, 853 F2d 894, 7 USPQ. 1673 (Fed. Cir. 1988); see also *In re Jones*, 958 F2d 347, 21

PQ2d 1941 (CAFC 1992).

In re O'Farrell states, "In others, what was "obvious to try" was to explore a new technology or general approach that seemed to be a promising field of experimentation, where the prior art gave only general guidance as to the particular form of the claimed invention or how to achieve it. In re Dow Chemical Co., 837 F.2d, 469, 473, 5 USPQ2d 1529, 1532 (Fed. Cir. 1985); Hybritech, Inc. v. Monoclonal Antibodies, Inc., 802 F.2d 1367, 1380, 231 USPQ 81, 90-91 (Fed. Cir. 1986), cert. denied, 107 S.Ct. 1606 (1987); In re Tomlinson, 363 F.2d 928, 931, 150 USPQ 623, 626 (CCPA 1966)." Tong et al. merely provides general guidance as to the particular form of the claimed invention or how to achieve it.

Although there may be a finite number of patterns, sequences or codes, the 16-position/bit combinations of the 64 available positions/bits are astronomical, and therefore cannot be considered obvious. For example, with respect to determining a puncturing pattern, the total number of combinations to choose from is given by:

$$_n C_k = \frac{n!}{k!(n-k)!}$$

which produces a total number of possible combinations of **488,526,937,079,580**. The amount of experimentation and analysis needed to determine optimal puncturing patterns in and of itself removes the claim element from any unsupported obviousness rejection. The disclosure by Tong et al. provides only general guidance as to the particular form of the claimed invention or how to achieve it, and therefore cannot be the basis for an obviousness rejection.

Still further, the claims of the present application incorporate the orthogonal sequences, the masking sequences and the puncturing patterns that further increase the possible combinations. The obviousness rejections of any of Claims 9, 20, 25, 29-31, 33, 34, 36 and 38 cannot stand.

Based on at least the foregoing, withdrawal of the rejections of any of Claims 9, 20, 25, 29-31, 33, 34, 36 and 38 is respectfully requested.

The Examiner has rejected independent Claims 25 and 29 under 35 U.S.C. §103(a) as being unpatentable over Citation #4 and Wicker, in view of Citation #7. Each of Claims 25 and 29 recite a specific puncturing pattern. Based on the foregoing puncturing pattern analysis, the rejections must be withdrawn.

Based on at least the foregoing, withdrawal of the rejected independent Claims 25 and 29 under 35 U.S.C. §103(a) is respectfully requested.

Independent Claims 8, 19, 25 and 29 are believed to be in condition for allowance. Without conceding the patentability per se of dependent Claims 9, 20 and 30-38, these are likewise believed to be allowable by virtue of their dependence on their respective amended independent claims. Accordingly, reconsideration and withdrawal of the rejections of dependent Claims 9, 20 and 30-38 is respectfully requested. Furthermore, new dependent Claims 39-44 are believed to be patentable for at least the reasons given above with respect to the independent claims from which they depend.

Accordingly, after entry of this Response, all of the claims pending in the Application, namely, Claims 8, 9, 19, 20, 25 and 29-44, are believed to be in condition for allowance. Should the Examiner believe that a telephone conference or personal interview would facilitate resolution of any remaining matters, the Examiner may contact Applicants' attorney at the number given below.

Respectfully submitted,



Paul J. Farrell
Reg. No. 33,494
Attorney for Applicants

DILWORTH & BARRESE, LLP
333 Earle Ovington Blvd.
Uniondale, New York 11553
Tel: (516) 228-8484
Fax: (516) 228-8516
PJF/MJM/dr